EXHIBIT 4

LONG TERM CONTROL PLAN UPDATE WORK PLAN

I. Introduction

This Long Term Control Plan Update Work Plan describes the process and schedule that Hamilton County and the City of Cincinnati ("Defendants") will follow, the analyses Defendants will perform, and the information Defendants will generate, obtain and provide, to develop a Long Term Control Plan Update Report and Long Term Control Plan Update in accordance with the Consent Decree on Combined Sewer Overflows, Wastewater Treatment Plants and Implementation of Capacity Assurance Program Plan for Sanitary Sewer Overflows ("Consent Decree"), and the steps Defendants will take to keep the United States Environmental Protection Agency, the Ohio Environmental Protection Agency, and the Ohio River Valley Water Sanitation Commission (the "regulators") apprized of developments throughout the course of development of the Long Term Control Plan Update so the regulators can provide meaningful input throughout the process.

II. Long Term Control Plan Update

Defendants will do the following to develop a Long Term Control Plan Update:

A. Defendants have prepared a comprehensive listing of all current CSOs, assigning them to clusters, sewersheds and watersheds; this listing is appended to this Work Plan as Attachment A. Defendants will review the permit status of each CSO with the state regulatory authorities. The Defendants may, after consultation with the regulators, adjust cluster definitions as necessary to facilitate consideration of more effective CSO control alternatives. Defendants anticipate that a number of CSOs will be identified as suitable for elimination (or control such that no overflows occur in a typical year) through sewer separation. In such cases, sewer separation shall be the selected alternative as part of the Long Term Control Plan Update for the CSOs at issue, and these projects will not be subject to further alternatives evaluation.

Defendants will complete an initial screening analysis of the alternatives in Attachment A, excluding CSOs to be separated as described above, to eliminate from further consideration any alternatives that are not feasible. Infeasibility may be due to factors such as site constraints, technology limitations, or exorbitant costs (in relation to other comparable alternatives being considered for the same CSO clusters, and in relation to costs expended by other CSO communities for similar technologies on a cost/performance or cost/unit size basis as reported in the literature (normalized to

current year dollars)).

Following the initial screening analysis, Defendants will integrate the clusters with interceptor and central/regional treatment alternatives to develop a minimum of 2 to 3 overall CSO control strategies for each of the three combined sewersheds (Mill Creek; Muddy Creek; and Duck Creek/East Little Miami). Defendants may develop one or more variations for any of these overall CSO control strategies. These variations (e.g., Mill Creek Alternatives 1A and 1B) would allow consideration of modifications of a particular strategy. An example might be an overall alternative that utilizes a storage tunnel to address all CSOs in a sewershed except one small, remote overflow. Two sub-alternatives might involve (a) separation or (b) local storage of that one small outfall.

B. Defendants will carry forward for cost-performance and other analysis a minimum of 2 to 3 overall CSO control strategies for each sewershed. Defendants' cost-performance analysis of these alternatives will consist of the following:

1. Use of a planning-level model based on Defendants' Sewer System Hydraulic Model, relevant information, and sound engineering judgment to develop reasonable, planning-level estimates of the sizes, capacities, performance in a typical year (i.e., number of activations and overflow volume), and other relevant characteristics of each of the alternatives being evaluated, for the following levels of typical year CSO volumetric control: 85%, 90%, 95%, 99+% typical year control;

2. Review of relevant information, including recent estimates and bids, to develop reasonable, planning level estimates of the "Project Costs," as that term is described on pages 3-49 through 3-51 of U.S. EPA's September 1995 "Combined Sewer Overflows: Guidance for Long Term Control Planning" for each alternative that is being evaluated. The determination of Project Costs will include: (i) "capital costs," "annual O & M costs," and the calculation of "life cycle costs" for each alternative and (ii) a break down of the "capital costs" and "annual O & M costs" that went into calculating the Project Costs for each alternative. The terms "capital costs," "annual O & M costs," and "life cycle costs" are described on pages 3-49 through 3-51 of U.S. EPA's September 1995 "Combined Sewer Overflows: Guidance for Long Term Control Planning." Data will be adjusted to suit local conditions based on size, site conditions, and construction features;

3. An evaluation of the costs and performance in terms of reducing overflow frequency and/or volume and/or loadings of Pollutants of Concern as determined through implementation of the Monitoring and Modeling Work Plan (Exhibit 3). The evaluations shall include, but not be limited to, "knee of the curve" cost-performance analyses. These analyses will allow for the comparison of the costs per unit of measure of frequency and/or volume reduction and/or pollutants removed from the discharge for each alternative that has been evaluated;

4. An evaluation of each alternative's performance with regard to the control of floatables and solids, in accordance with the CSO Policy. It is understood that this evaluation will be qualitative in nature and will address the general capability of the proposed alternative for floatables and solids removal; and

5. As part of the cost and performance analyses, Defendants shall consider all of the CSO-specific alternatives identified in Attachment A, to optimize the cost-performance of each of the overall control strategies identified for each sewershed.

C. If Defendants believe that a revision to water quality standards based upon affordability will be necessary to enable Defendants to meet the goals set forth below in Paragraph II.E.1; Defendants will generate the following financial information to assist the State of Ohio and ORSANCO with their decisions concerning any potential revisions to water quality standards:

1. The information pertaining to the impacts that the Updated Long Term Control Plan Update is expected to have on the community specified in Chapters 2 and 4 of U.S. EPA's March 1995 Interim Economic Guidance for Water Quality Standards: Workbook (EPA 823-B-95-002), derived in accordance with the instructions in that document; and a description of the sources used to derive the information. This information shall, at a minimum, include: 1) a "Municipal Preliminary Screener" (*i.e.*, "Average Total Pollution Control Cost per Household" divided by "Median Household Income") that is derived using the Median Household Income for the entire Metropolitan Sanitary District service population; and 2) a "Municipal Preliminary Screener" that is calculated on a community-by-community basis;

2. Information on availability of grants and/or loans for funding the alternatives that have been evaluated; bond capacity for the next twenty years; current and projected residential, commercial and industrial user fees; and other viable funding mechanisms and/or sources of financing construction of the alternatives; and

3. Any other information that Defendants believe is important in evaluating Defendants' financial capability to fund improvements to Defendants' Sewer System and WWTPs, including without limitation, information developed in accordance with U.S. EPA's February 1997 "CSO-Guidance for Financial Capability Assessment and Schedule Development" (EPA 832-B-95-06), and/or U.S. EPA's March 1995 Interim Economic Guidance for Water Quality Standards: Workbook (EPA 823-B-95-002).

4. As an alternative to providing the information described above, the Defendants may provide information consistent with the State of Ohio procedures for evaluating financial capability and other criteria suitable for water quality standards revisions.

D. Defendants will utilize a planning-level model based on Defendants' Sewer System Hydraulic Model, Defendants' water quality modeling capabilities developed as a result Defendants' implementation of the Monitoring and Modeling Work Plan (Exhibit 3), and water quality monitoring data developed in the course of implementing Exhibit 3 to evaluate the impacts that 85%, 90%, 95%, and 99+% typical year volumetric control by each of the minimum of 2 to 3 control strategies per watershed would have on the levels of POCs as determined through implementation of the Monitoring and Modeling Work Plan (Exhibit 3) in the receiving streams in areas affected by CSOs and bypassing during a "typical year." This will include:

1. Evaluating the impacts that the alternatives would have on reducing or eliminating days and hours of exceedances of water quality criteria for POCs in receiving streams impacted by CSOs and bypassing during a typical year when background sources including Kentucky-side discharges, boundary flows in the area rivers and streams, storm water, SSO, WWTP effluents and other discharges of the POCs are included in the evaluation;

2. Evaluating the impacts that background sources would have on exceedances of water quality criteria for POCs in receiving streams impacted by CSOs and bypassing during a typical year if CSOs and bypasses were assumed to be zero; and

3. In the event that Defendants intend to seek a revision to water quality standards, Defendants will carry out the analyses described in Paragraphs II.D.1 and II.D.2 using both the existing water quality criteria and the prospective water quality criteria for the parameters for which revision is sought. If Defendants intend to seek a revision to water quality standards, they may choose to apply for a revision pertaining to an entire sewershed or sewersheds or they may choose to seek a revision pertaining to only a portion or portions of a sewershed or sewersheds. If Defendants intend to seek a revision pertaining to only a portion or portions of a sewershed, Defendants shall carry out the analyses described in Paragraphs II.D.1 and II.D.2 for other cluster-specific alternatives identified in Attachment A, as may be appropriate to provide information necessary to support the request for water quality standard revision.

E. 1. Defendants will utilize the analysis, evaluations and information described in Paragraphs II.A - II.D along with other information and data pertaining to cost-effectiveness, financial capacity and affordability, community standards and other operating, socio-economic and environmental factors to identify proposed remedial measures, the "Long Term Control Plan Update," necessary to achieve the goals of insuring that: (1) Defendants construct and implement all feasible alternatives to eliminate bypasses at Defendants' WWTPs or, if Defendants demonstrate during the course of developing the Long Term Control Plan Update that elimination of bypassing is not feasible, to reduce bypasses at the WWTPs to the maximum extent feasible and to provide maximum feasible treatment for any remaining bypasses (where appropriate,

feasible alternatives to bypassing may include, without limitation, high rate physical-chemical treatment units and/or primary clarification and disinfection); (2) Defendants' CSOs comply with the requirements of the Clean Water Act, U.S. EPA's CSO Policy, Chapter 6111 of the Ohio Revised Code and the rules promulgated thereunder, the Compact and the pollution control standards promulgated thereunder, and Defendants' Current Permits; and (3) Defendants eliminate Unpermitted Overflows.

2. It is expected that the Defendants will meet with the regulators to review the proposed remedial measures and will work with the regulators to assess compliance with water quality standards and any necessary revisions to water quality standards.

3. In accordance with Paragraph IX.B of the Consent Decree, Defendants may also include the following as elements of their proposed Long Term Control Plan Update: a Sewer Relining and Manhole Rehabilitation Program Plan; measures for preventing Water-In-Basements ("WIB(s)"); measures necessary to meet the adequate capacity requirements of Paragraph XIII.D (Water-in-Basement Program: Adequate Capacity), including measures implemented pursuant to Exhibit 6 (Water-in-Basement Prevention Program) of the Consent Decree; and remedial measures necessary to comply with new or more stringent requirements that are included or expected to be included in future NPDES permits pertaining to Defendants' WWTPs or Sewer System. Capital costs required to implement the measures described in the immediately preceding sentence may be included by Defendants in calculating the $1.5 billion cost estimate referenced in Paragraph II.F of this Work Plan.

F. Defendants will develop a schedule that is as expeditious as practicable for design, construction, implementation and utilization of the remedial measures proposed pursuant to Paragraph II.E, above (including any of the additional elements described in Paragraph II.E.3, above, that Defendants propose to include in the Long Term Control Plan Update). The schedule shall contain a deadline for substantial completion of construction of all remedial measures in a manner that is as expeditious as practicable, but in no event later than February 28, 2022, unless Defendants demonstrate that the capital costs (in 2006 dollars) of the remedial measures specified in the Long Term Control Plan Update and the Capacity Assurance Program Plan approved under the Interim Partial Consent Decree on Sanitary Sewer Overflows are expected to exceed $1.5 billion. If Defendants demonstrate that such capital costs are expected to exceed $1.5 billion, then the deadline for completion of all remedial measures specified in the Long Term Control Plan Update and the CAPP must be specified in the Plan(s) and must still be as expeditious as practicable, but may be later than February 28, 2022, if it is not practicable to complete the CAPP and Long Term Control Plan Update remedial measures by that date. The schedule will be developed in coordination with the schedule for implementing the Capacity Assurance Program Plan developed in accordance with the Interim Partial Consent Decree on Sanitary Sewer Overflows, and will also be based

on consideration of the following: water quality, human health, capacity-related "water in basement" issues, pollutant loadings, volume of discharge, community priorities, sensitive areas, U.S. EPA's February 1997 "CSO-Guidance for Financial Capability Assessment and Schedule Development" (EPA 832-B-95-06), and/or U.S. EPA's March 1995 Interim Economic Guidance for Water Quality Standards: Workbook (EPA 823-B-95-002), and reducing inefficiencies in the event that future contingencies do not occur as anticipated (e.g., water quality standards are not revised, see Paragraph III.G below, and so the Long Term Control Plan Update must be modified). The schedule will include critical construction milestones, including, at a minimum, deadlines for submission of Permits to Install; commencement of construction, and commencement of operations/substantial completion of construction.

G. The CSO Policy recognizes that information developed during the course of long term control planning may serve as a basis for seeking revisions to water quality standards or NPDES permit requirements, particularly where that information demonstrates that it will not be feasible to attain water quality standards. If the proposed Long Term Control Plan Update described in this Section II is not expected to ensure compliance with the requirements of the Clean Water Act, U.S. EPA's CSO Policy, Chapter 6111 of the Ohio Revised Code and the rules promulgated thereunder, the Compact and the pollution control standards promulgated thereunder that are in effect as the plan is being developed, but is instead based upon Defendants' belief that those requirements will be revised by the time Defendants complete implementation of the Long Term Control Plan Update, Defendants, working in conjunction with Ohio EPA and ORSANCO, will evaluate how those legal requirements will change (e.g., anticipated changes in NPDES permitting requirements or water quality standards applicable to Defendants). If Defendants' proposed Long Term Control Plan Update is premised on Defendants' belief that legal requirements will change, then Defendants will also identify, describe and evaluate at least one alternative set of remedial measures that would most cost-effectively ensure that Defendants' CSOs during a typical year will comply with all legal requirements if those requirements are not changed. In providing the information required by the preceding sentence, Defendants are not proposing or agreeing to implement such measures.

H. By June 30, 2006, Defendants will submit a report, the Long Term Control Plan Update Report," to U.S. EPA/Ohio EPA/ORSANCO. The Long Term Control Plan Update Report will contain the following:

1. A description of the steps Defendants took to comply with the Public Participation Plan attached to the Consent Decree as Exhibit 2, including how Defendants took information provided by the public into account in developing the Long Term Control Plan Update;

2. A narrative description of the Long Term Control Plan Update

development process and of the information gathered and the analyses conducted, including descriptions of how Defendants complied with the requirements of this Long Term Control Plan Update Work Plan and considered the various factors set forth in and information developed pursuant to this Long Term Control Plan Update Work Plan in selecting the recommended measures and the proposed construction schedule in the Long Term Control Plan Update;

3. Narrative discussions and appropriate graphical and tabular summaries of the results of the comparative water quality impacts of the various alternatives considered. It is anticipated that these will include tabular comparison of incremental cost/performance and graphics depicting the results of "knee of the curve" analyses;

4. A Long Term Control Plan Update that:

a. Identifies and provides detailed information (including appropriate design and performance criteria, as described in subparagraph 4.b, below) regarding additional remedial measures, if any, the "Long Term Control Plan Update," that are necessary to achieve the goals set forth above in Paragraph II.E.1 of this Workplan;

b. Criteria necessary to ensure that the remedial measures are properly designed ("design criteria") and to ensure that, once constructed, the remedial measures perform in the manner that they were expected to perform ("performance criteria"); and

c. Contains a schedule that complies with the requirements of Paragraph II.F, above.

5. A narrative description and summary graphs, tables and data, based on the analysis required by Paragraph 2.5.2 of the Monitoring and Modeling Work Plan (Exhibit 3) regarding the impacts that Defendants' CSOs, among other pollutant sources, are expected to have on *E. coli* levels in the Ohio River between River Mile 490 and the downstream Markland Dam if the proposed Long Term Control Plan Update is implemented. Defendants are only agreeing to perform this evaluation at the regulators' request. Defendants do not believe that the existing ORSANCO Ohio River model structure is adequate to perform this evaluation of the impacts beyond River Mile 490 and reserve the right to dispute the accuracy or reliability of the results of this evaluation of the impacts beyond River Mile 490.

6. If Defendants' proposed Long Term Control Plan Update is premised on Defendants' belief that legal requirements will change, an explanation as to why the suite of alternatives developed pursuant to Paragraph III.G, above was not selected;

7. If Defendants' proposed Long Term Control Plan Update is premised on Defendants' belief that water quality standards will be revised based on affordability, all of the information pertaining to the impacts that the Updated Long Term Control Plan Update is expected to have on the community specified in Chapters 2 and 4 of U.S. EPA's March 1995 Interim Economic Guidance for Water Quality Standards: Workbook (EPA 823-B-95-002), derived in accordance with the instructions in that document; and a description of the sources used to derive the information. This information shall, at a minimum, include: 1) a "Municipal Preliminary Screener" (*i.e.*, "Average Total Pollution Control Cost per Household" divided by "Median Household Income") that is derived using the Median Household Income for the entire Metropolitan Sanitary District service population; and 2) a "Municipal Preliminary Screener" that is calculated on a community-by-community basis. If State of Ohio or ORSANCO procedures are used to assess affordability, information developed to support that assessment will also be presented.

III. Updating the Regulators as the Long Term Control Plan Update is Being Developed

At least twice each year in 2004 and 2005, and at least once between January 1 and March 31 in 2006, Defendants will provide to the regulators oral and visual presentations, summary reports, data and paper copies of the presentation materials at the time of the presentation concerning the status of Defendants' implementation of this Long Term Control Plan Update Work Plan as well as preliminary results, as they become available, of the analysis described in Section II. The regulators will attempt to provide any written comments to the Defendants within 15 days of the presentation. Among other things, the presentations will address the following:

1. Summaries of the results of the initial screening analysis performed in accordance with Paragraph II.A of this Work Plan, including a description of all alternatives that were determined to be not feasible and, for each alternative eliminated from further consideration, an explanation as to the basis for Defendants' conclusion that the alternative was not feasible;

2. For each alternative being evaluated, a description of the measures (including various sizes associated with each level of control evaluated) that Defendants estimated would need to be constructed in accordance with Paragraph II.B.1;

3. Information concerning the costs and performance (in terms of volume and pollutant loading reductions, regardless of water quality impacts, and floatables and solids control) of each size of each of the alternatives evaluated. This information may include "knee of the curve" cost-performance analyses that will allow for the comparison of the costs per unit of measure of CSO volume or pollutants removed from the discharge for each alternative that has been evaluated. Measures to be used may include projected reductions in annual pollutant loads and/or discharge volumes and/or overflow

frequencies for each of the alternatives evaluated for each specific CSO cluster and bypassing point, as well as projected reductions in pollutant loads and/or discharge volumes and/or overflow frequencies on a receiving stream by receiving stream basis;

4. Summaries of the water quality monitoring data collected pursuant to the Monitoring and Modeling Work Plan (Exhibit 3);

5. The proposed Long Term Control Plan Update as set forth in Paragraphs II.E and II.F; and

6. Proposed modifications, if any, to existing water quality standards on a stream-by-stream basis.

EXHIBIT 4, ATTACHMENT A-1 - MILL CREEK DRAINAGE AREA ALTERNATIVES

CSO	Location	Receiving Water	Alternative Group No.	Alternatives To Be Evaluated						
				Base Assumption	SEP/ELIM	MILL CRK TUNNEL	CONSOL / HRT	CONSOL / STORE	SCREEN / OPTIM	HW/DW	OTHER
667	EASTERN AND GOTHAM	Ohio River	MILL-1	Constructed/identified post-1996. Sep. to be considered.	X	---	*	*	X	NA	If not eliminating by separation, consider HRT and storage
460	BAYOU ST. 100 WEST DIV. DAM	Ohio River	MILL-1	HW/DW Improvement	X	---	X	X	X	Planned	Consolidation for storage/treatment of 460 & 458
459	BAYOU ST. 120 WEST REGULATOR	Ohio River	MILL-1	HW/DW Improvement	X	---	*	*	X	Planned	If not eliminating by separation, consider HRT and storage
458	COLLINS ST. EAST DIV. DAM	Ohio River	MILL-1	HW/DW Improvement	X	---	X	X	X	Y	Consolidation for storage/treatment of 460 & 458
457	COLLINS ST. WEST DIV. DAM	Ohio River	MILL-1	HW/DW Improvement	X	---	*	*	X	Planned	If not eliminating by separation, consider HRT and storage
457A	COLLINS ST. WEST REGULATOR	Ohio River	MILL-1	Optimization	X	---	*	*	X	Y	If not eliminating by separation, consider HRT and storage
658	HAZEN ST. @ GLEN ALLEY DIV. DAM	Ohio River	NA	Constructed/identified post-1996. Sep. to be considered.	X	---	*	*	X	Y	If not eliminating by separation, consider HRT and storage
456	HAZEN ST. DIV. DAM	Ohio River	MILL-1	Optimization	X	---	*	*	X	NA	If not eliminating by separation, consider HRT and storage
455	WALDEN ST. DIV. DAM	Ohio River	MILL-1	Optimization	X	---	X	X	X	NA	Consolidation for storage/treatment of 454A & 455
454A	LITHERBURY ST. NORTH DIV. DAM	Ohio River	MILL-1	Optimization	X	---	X	X	X	NA	Consolidation for storage/treatment of 454A & 455
454B	LITHERBURY ST. SOUTH DIV. DAM	Ohio River	MILL-1	Constructed/identified post-1996. Sep. to be considered.	X	---	*	*	X	NA	If not eliminating by separation, consider HRT and storage
453A	COLLARD ST. REGULATOR	Ohio River	MILL-2	Relocate Div. Dam	X	---	*	*	X	Y	If not eliminating by separation, consider HRT and storage
452	PARSONS ST. DIV. DAM	Ohio River	MILL-2		X	---	X	X	X	NA	Storage/treatment of 452
451	SAWYER POINT EAST DIV. DAM	Ohio River	MILL-2	HW/DW Improvement	X	---	*	*	X	Planned	If not eliminating by separation, consider HRT and storage
465E	EGGLESTON & 3RD	Ohio River	MILL-2	Constructed/identified post-1996. Sep. to be considered.	X	---	*	*	X	Y	If not eliminating by separation, consider HRT and storage
466E	EGGLESTON AND PETE ROSE WAY DIV. DAM	Ohio River	MILL-2	HW/DW Improvement	X	---	*	*	X	Y	If not eliminating by separation, consider HRT and storage
464	EGGLESTON AND 3RD F. DIV. DAM	Ohio River	MILL-2	Optimization	X	---	X	X	X	Y	Consolidation for storage/treatment of 464 & 461
465	EGGLESTON AND 3RD E. DIV. DAM	Ohio River	MILL-2	Constructed/identified post-1996. Sep. to be considered.	X	---	*	*	X	NA	If not eliminating by separation, consider HRT and storage
461	EGGLESTON AND 4TH DIV. DAM SLUICE	Ohio River	MILL-2	HW/DW Improvement	X	---	X	X	X	Y	Consolidation for storage/treatment of 464 & 461
450	BUTLER ST. DIV. DAM	Ohio River	MILL-2	HW/DW Improvement	X	---	*	*	X	Y	If not eliminating by separation, consider HRT and storage
449	PIKE ST. DIV. DAM	Ohio River	MILL-2	HW/DW Improvement	X	---	*	*	X	Y	If not eliminating by separation, consider HRT and storage
447	RIVERFRONT COLISEUM REGULATOR	Ohio River	MILL-2	HW/DW Improvement	X	---	*	*	X	Planned	If not eliminating by separation, consider HRT and storage
438	CENTRAL AVE. GRATING	Ohio River	MILL-3	HW/DW Improvement	X	---	*	X	X	Y	Consider HRT and storage.
437	SMITH ST. REGULATOR	Ohio River	MILL-4	HW/DW Improvement	X	---	*	*	X	Planned	If not eliminating by separation, consider HRT and storage
436	GEST AND FRONT REGULATOR	Ohio River	MILL-4	HW/DW Improvement	X	---	X	X	X	Y	Consolidation for storage/treatment of 436 & 435
435	BAYMILLER ST. REGULATOR	Ohio River	MILL-4	HW/DW Improvement	X	---	X	X	X	Y	Consolidation for storage/treatment of 436 & 435
434	CARR AND FRONT DIV. DAM	Ohio River	MILL-4	HW/DW Improvement	X	---	*	*	X	Y	If not eliminating by separation, consider HRT and storage
433	CARR ST. REGULATOR	Ohio River	MILL-4	HW/DW Improvement	X	---	*	*	X	Y	If not eliminating by separation, consider HRT and storage.
422	MT. ECHO RD. REGULATOR	Ohio River	MILL-5	HW/DW Improvement	X	---	X	X	X	Y	Consolidation for storage/treatment of 422, 423, 424 & 425B
423	MT. HOPE AVE. REGULATOR	Ohio River	MILL-5	HW/DW Improvement	X	---	X	X	X	Y	Consolidation for storage/treatment of 422, 423, 424 & 425B
424	RIVER RD. @ STATE DIV. DAM	Ohio River	MILL-5	HW/DW Improvement	X	---	X	X	X	Y	Consolidation for storage/treatment of 422, 423, 424 & 425B
427	PERIN AND EVANS DIV. DAM SLUICE	Ohio River	MILL-5	HW/DW Improvement	X	---	*	*	X	Under Const.	If not eliminating by separation, consider HRT and storage
668	EVANS AND 6TH STREET DIVERSION DAM	Ohio River	MILL-5	Constructed/identified post-1996. Sep. to be considered.	X	---	*	*	X		If not eliminating by separation, consider HRT and storage.

X Included in 1996 LTCP. Included in update.
--- Not included in Update.
* See "Other" alternatives for this CSO
Note - Separation infers both street-level and complete separation.

EXHIBIT 4, ATTACHMENT A-1 - MILL CREEK DRAINAGE AREA ALTERNATIVES

CSO	Location	Receiving Water	Alternative Group No.	Alternatives To Be Evaluated							
				Base Assumption	SEP/ELIM	MILL CRK TUNNEL	CONSOL / HRT	CONSOL / STORE	SCREEN / OPTIM	HW/DW	OTHER
425B	STATE AVE. DIV. DAM	Ohio River	MILL-5	HW/DW Improvement	X	---	X	X	X	Y	Consolidation for storage/treatment of 422, 423, 424 & 425B
426A	EVANS AND RIVER RD. #1 DIV. DAM	Ohio River	MILL-5	HW/DW Improvement	X	---	*	*	X	Planned	If not eliminating by separation, consider HRT and storage
426B	EVANS AND RIVER RD. #2 DIV. DAM	Ohio River	MILL-5	HW/DW Improvement	X	---	*	*	X	Planned	If not eliminating by separation, consider HRT and storage.
419	BOLD FACE SR. DIV. DAM	Ohio River	MILL-6	HW/DW Improvement	X	---	X	X	X	Y	Storage/treatment of 419
420	DELHI AVE. DIV. DAM	Ohio River	MILL-6	Optimization	X	---	*	*	X	NA	If not eliminating by separation, consider HRT and storage
421	RIVER ROAD @ DELHI DIV. DAM	Ohio River	MILL-6	Optimization	X	---	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
428	SOUTH ST. REGULATOR	Mill Creek	MILL-7	HW/DW Improvement	X	X	X	X	X	Y	Consolidation for storage/treatment of 428 & 429
429	GEST ST. EAST DIV. DAM	Mill Creek	MILL-7	HW/DW Improvement	X	X	*	X	X	Y	Consolidation for storage/treatment of 428 & 429
2	LIBERTY ST. REGULATOR	Mill Creek	MILL-8	Optimization	X	X	X	X	X	Y	Storage/treatment of 2
152	FITZPATRICK ST. REGULATOR	Mill Creek	MILL-8	Optimization	X	---	*	*	X	Y	If not eliminating by separation, consider HRT and storage
430	GEST ST. WEST-2-A DIV. DAM	Mill Creek	MILL-9	Pumped Storage CSO 430, 431A, 432, 489, 666	X	X	X	X	X	Y	Consolidation for storage/treatment of 430, 432, 489, 666 & 431A
432	9TH AND MCLEAN DIV. DAM	Mill Creek	MILL-9	Pumped Storage CSO 430, 431A, 432, 489, 666	X	X	*	X	X	Y	Consolidation for storage/treatment of 430, 432, 489, 666 & 431A
489	7TH AND MCLEAN DIV. DAM	Ohio River	MILL-9	Pumped Storage CSO 430, 431A, 432, 489, 666	X	X	*	X	X	Y	Consolidation for storage/treatment of 430, 432, 489, 666 & 431A
666	MCLEAN AND LIBERTY ST. DIVERSION DAM	Mill Creek	MILL-9	Pumped Storage CSO 430, 431A, 432, 489, 666	X	X	X	X	X	Y	Consolidation for storage/treatment of 430, 432, 489, 666 & 431A
431A	MCLEAN STREET DIVERSION DAM	Ohio River	MILL-9	Pumped Storage CSO 430, 431A, 432, 489, 666	X	X	X	X	X	Y	Consolidation for storage/treatment of 430, 432, 489, 666 & 431A
3	HARRISON AND STATE WEST REGULATOR	Mill Creek	MILL-10	Optimization	X	X	X	X	X	Planned	Consolidation for storage/treatment of 3, 4, 5, 6 & 7
4	HARRISON AND STATE EAST REGULATOR	Mill Creek	MILL-10	Optimization	X	X	X	X	X	Planned	Consolidation for storage/treatment of 3, 4, 5, 6 & 7
5	LICK RUN REGULATOR	Mill Creek	MILL-10	HRT	X	X	X	X	X	Y	Consolidation for storage/treatment of 3, 4, 5, 6 & 7
6	QUEEN CITY EAST REGULATOR	Mill Creek	MILL-10	Optimization	X	X	X	X	X	Y	Consolidation for storage/treatment of 3, 4, 5, 6 & 7
7	DRAPER ST. REGULATOR	Mill Creek	MILL-10	Optimization	X	X	X	X	X	Y	Consolidation for storage/treatment of 3, 4, 5, 6 & 7
8	VINTON ST. REGULATOR	Mill Creek	MILL-11	Optimization	X	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
9	MARSHALL AVE. REGULATOR	Mill Creek	MILL-11	HRT	X	X	X	X	X	Y	Storage/treatment of 9
10	DENHAM ST. REGULATOR	Mill Creek	MILL-12	HRT	X	X	X	X	X	Y	Storage/treatment of 10
11	HOPPLE ST. REGULATOR	Mill Creek	MILL-12	Optimization	X	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
12	BATES RUN REGULATOR	Mill Creek	MILL-13	HRT	X	X	X	X	X	Y	Consolidation for storage/treatment of 12 & 13
13	YONKERS ST. REGULATOR	Mill Creek	MILL-13	Optimization	X	X	X	X	X	NA	Consolidation for storage/treatment of 12 & 13
14	STATION 15 REGULATOR	Mill Creek	MILL-14	Optimization	X	X	X	X	X	Y	Consolidation for storage/treatment of 14 & 15
15	ARLINGTON ST. REGULATOR	Mill Creek	MILL-14	Optimization	X	X	X	X	X	Y	Consolidation for storage/treatment of 14 & 15
89	MONTANA GRATING	West Fork Mill Creek	Mill-15	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
123	HOFFNER GRATING	West Fork Mill Creek	MILL-15	Separation CSO 123,527A	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
125	BADGELEY RUN GRATING	West Fork Mill Creek	MILL-15	Consolidate CSO 125,126 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 125, 126, 130, 203 & 117A
126	TODD #1 GRATING	West Fork Mill Creek	MILL-15	Consolidate CSO 125,126 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 125, 126, 130, 203 & 117A
127	HAYS GRATING	West Fork Mill Creek	MILL-15	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT or storage.

X Included in 1996 LTCP. Included in update.
--- Not included in Update.
* See "Other" alternatives for this CSO
Note - Separation infers both street-level and complete separation.

EXHIBIT 4, ATTACHMENT A-1 - MILL CREEK DRAINAGE AREA ALTERNATIVES

CSO	Location	Receiving Water	Alternative Group No.	Alternatives To Be Evaluated							
				Base Assumption	SEP/ELIM	MILL CRK TUNNEL	CONSOL / HRT	CONSOL / STORE	SCREEN / OPTIM	HW/DW	OTHER
128	TODD #2 GRATING	West Fork Mill Creek	MILL-15	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT or storage.
130	BUTTE GRATING	West Fork Mill Creek	MILL-15	Consolidate CSO 130,203 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 125, 126, 130, 203 & 117A
203	TWIN GRATING	West Fork Mill Creek	MILL-15	Consolidate CSO 130,203 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 125, 126, 130, 203 & 117A
117A	DREMAN GRATING	West Fork Mill Creek	MILL-15	HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 125, 126, 130, 203 & 117A
527A	POWERS #1 GRATING	West Fork Mill Creek	MILL-15	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
528A	BEEKMAN NORTH GRATING	West Fork Mill Creek	MILL-15	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
528B	BEEKMAN SOUTH GRATING	West Fork Mill Creek	MILL-15	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
529B	LIEWELLEN GRATING	West Fork Mill Creek	MILL-15	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
18	COLERAIN AVE. DIV. DAM	Mill Creek	MILL-16	Optimization	X	X	X	X	X	NA	Consolidation for storage/treatment of 18, 21 & 17B
19	GERINGER ST. GRATING	Mill Creek	MILL-16	Optimization	X	X	*	*	X	NA	If not eliminating by separation, consider HRT or storage
21	STRENG ST. DIV. DAM	Mill Creek	MILL-16	HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 18, 21 & 17B
17B	DREMAN AVE.DIV. DAM	Mill Creek	MILL-16	Optimization	X	X	X	X	X	NA	Consolidation for storage/treatment of 18, 21 & 17B
194	HIGHPOINT GRATING	Tributary of West Fork	MILL-17	Separation	X	---	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
195	WESTWOOD NORTHERN GRATING	Tributary of West Fork	MILL-17	Separation	X	---	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
525	MT. AIRY GRATING	Tributary of West Fork	MILL-17	Separation	X	---	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
151	GROESBECK GRATING	Ludlow Run	MILL-18	Relief Sewer CSO 109,151,162,165	X	X	X	X	X	NA	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
109	HILLCREST NORTH GRATING	Ludlow Run	MILL-18	Relief Sewer CSO 109,151,162,165	X	X	X	X	X	NA	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
110	4710 HOWARD GRATING	Ludlow Run	MILL-18	Relief Sewer	X	X	X	X	X	NA	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
112	1547 SPRINGLAWN GRATING	Ludlow Run	MILL-18	Relief Sewer	X	X	X	X	X	NA	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
165	SPRINGLAWN @ BRIDGE GRATING	Ludlow Run	MILL-18	Relief Sewer CSO 109,151,162,165	X	X	X	X	X	NA	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
162	THOMPSON HEIGHTS GRATING	Ludlow Run	MILL-18	Relief Sewer CSO 109,151,162,165	X	X	X	X	X	NA	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
22	LUDLOW AVE. REGULATOR	Mill Creek	MILL-18	HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
23	ALIBONE ST. REGULATOR	Mill Creek	MILL-18	Consolidate CSO 23,24 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
24	LUDLOW RUN REGULATOR	Mill Creek	MILL-18	Consolidate CSO 23,24 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
179	SCARLET OAKS REGULATOR	Mill Creek	MILL-18	Express Sewer	X	X	X	X	X	Planned	Consolidation for storage/treatment of 151, 109, 110, 112, 165, 162, 22, 23, 24 & 179
28	CLIFTON AVE. EAST GRATING	Mill Creek	MILL-19	Consolidate CSO 28,30,482 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 28, 29, 30, 480, 481 & 25A
29	DONNELL ST. GRATING	Mill Creek	MILL-19	Regulator Improvement	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
30	LAFAYETTE CIR. GRATING	Mill Creek	MILL-19	Consolidate CSO 28,30,482 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 28, 29, 30, 480, 481 & 25A
480	CLIFTON AVENUE WEST GRATING	Mill Creek	MILL-19	Optimization	X	X	X	X	X	NA	Separation CIP Project
481	MITCHELL AND SPRING GROVE DIV. DAM	Mill Creek	MILL-19	Optimization	X	X	X	X	X	NA	Consolidation for storage/treatment of 28, 29, 30, 480, 481 & 25A
25A	WINTON RD. A REGULATOR	Mill Creek	MILL-19	Separation	X	X	X	X	X	NA	Consolidation for storage/treatment of 28, 29, 30, 480, 481 & 25A
26A	STATION AVE. A DIV. DAM	Mill Creek	MILL-19	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
482	MITCHELL AVE. REGULATOR	Mill Creek	MILL-20	Consolidate CSO 28,30,482 to HRT	X	X	X	X	X	NA	Storage/Treatment of 482

X Included in 1996 LTCP. Included in update.
--- Not included in Update.
* See "Other" alternatives for this CSO
Note - Separation infers both street-level and complete separation.

EXHIBIT 4, ATTACHMENT A-1 - MILL CREEK DRAINAGE AREA ALTERNATIVES

CSO	Location	Receiving Water	Alternative Group No.	Alternatives To Be Evaluated							
				Base Assumption	SEP/ELIM	MILL CRK TUNNEL	CONSOL / HRT	CONSOL / STORE	SCREEN / OPTIM	HW/DW	OTHER
217A	WOODEN SHOE REGULATOR	Kings Run	MILL-21	Sewer Extension	X	X	X	X	X	NA	Consolidation for storage/treatment of 217A, 483, 486, 485 & 33
483	KINGS RUN REGULATOR	Mill Creek	MILL-21	HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 217A, 483, 486, 485 & 33
486	KINGS RUN AND SPRING GROVE DIV. DAM	Mill Creek	MILL-21	Optimization	X	X	*	X	X	NA	Consolidation for storage/treatment of 217A, 483, 486, 485 & 33
485	ROSS RUN REGULATOR	Mill Creek	MILL-21	Separation	X	X	*	*	X		If not eliminating by separation, consider HRT or storage
33	BANK AVE, REGULATOR	Mill Creek	MILL-21	Express Sewer	X	X	X	X	X	NA	Consolidation for storage/treatment of 217A, 483, 486, 485 & 33
487	ROSS RUN GRATING	Mill Creek	MILL-22	HRT	X	X	X	X	X	NA	Storage/Treatment of 487
181	BLOODY RUN REGULATOR	Bloody Run Creek	MILL-23	Consolidate CSO 181,544,653 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 181 & 544
544	VINE ST. DIV. DAM	Bloody Run Creek	MILL-23	Consolidate 181,544,653 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 181 & 544
653	MURRAY RD. DIV. DAM	Bloody Run Creek	MILL-23	Consolidate 181,544,653 to HRT	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
655	25 SPRUCE DIV. DAM	Mill Creek	MILL-24	Separation	X	---	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
37	MAPLE ST. DIV. DAM	Mill Creek	MILL-25	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
39	64TH ST. DIV. DAM	Mill Creek	MILL-25	Express Sewer	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
488	68TH ST. DIV. DAM	Mill Creek	MILL-25	HRT	X	X	X	X	X	NA	Storage/Treatment of 488
53	HARVEST AND KINCAID GRATING	Amberly Creek	MILL-26	Separation	X	---	*	*	X	NA	If not eliminating by separation, consider HRT and storage
505	BEREDITH AND KINCAID	Tributary of Mill Creek	MILL-26	Separation	X	---	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
506	6536 CLIFFRIDGE GRATING	Tributary of Mill Creek	MILL-26	Separation	X	---	*	*	X	NA	If not eliminating by separation, consider HRT and storage
651	RIDGE @ LAKEVIEW DIV. DAM	Tributary of Mill Creek	MILL-26	Separation	X	---	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
191	7601 PRODUCTION DR. GRATING	Tributary of Mill Creek	MILL-27	Separation	X	---	*	*	X	NA	If not eliminating by separation, consider HRT and storage
171	VINE AND DECAMP DIV. DAM	Mill Creek	MILL-28	Express Sewer	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
490	LOCKLAND HIGHWAY GRATING	Mill Creek	MILL-28	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
535	146 RIDGEWAY GRATING	Cilley Creek	MILL-29	Separation	X	---	*	*	X	NA	If not eliminating by separation, consider HRT and storage
537	#41 SHERRY GRATING	Cilley Creek	MILL-30	Separation	X	---	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
560	60 ST. CLAIR GRATING	Cilley Creek	MILL-30	Separation/Private	X	---	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
226	OXLEY GRATING	West Branch Mill Creek	MILL-31	Regulator Improvement	X	X	X	X	X	NA	Consolidation for storage/treatment of 226, 507, 508 & 670
507	214 CLARK ST. GRATING	Mill Creek	MILL-31	HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 226, 507, 508 & 670
508	245 CLARK ST. OVERFLOW	Mill Creek	MILL-31	Express Sewer	X	X	X	X	X	NA	Consolidation for storage/treatment of 226, 507, 508 & 670
562	428 SOUTH COOPER GRATING	West Branch Mill Creek	MILL-31	Optimization	X	X	*	*	X	NA	If not eliminating by optimization, consider HRT and storage.
670	MERRELL / DOW OVERFLOW	Mill Creek	MILL-31	Constructed/identified post-1996. Sep. to be considered.		X	X	X	X	NA	Consolidation for storage/treatment of 226, 507, 508 & 670
559	914 OAK ST. GRATING	West Branch Mill Creek	MILL-32	Consolidate 538,539,559 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 559, 539, 538, 516 & 515
539	117 E. CHARLOTTE GRATING	West Branch Mill Creek	MILL-32	Consolidate 538,539,559 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 559, 539, 538, 516 & 515
538	#96 NORTH PARK GRATING	West Branch Mill Creek	MILL-32	Consolidate 538,539,559 to HRT	X	X	X	X	X	NA	Consolidation for storage/treatment of 559, 539, 538, 516 & 515
516	BACON ST. GRATING	West Branch Mill Creek	MILL-32	Separation	X	X	X	X	X	NA	Consolidation for storage/treatment of 559, 539, 538, 516 & 515
515	200' WEST OF BACON ST. GRATING	West Branch Mill Creek	MILL-32	Separation	X	X	X	X	X	NA	Consolidation for storage/treatment of 559, 539, 538, 516 & 515

X Included in 1996 LTCP. Included in update.
--- Not included in Update.
* See "Other" alternatives for this CSO
Note - Separation infers both street-level and complete separation.

EXHIBIT 4, ATTACHMENT A-1 - MILL CREEK DRAINAGE AREA ALTERNATIVES

CSO	Location	Receiving Water	Alternative Group No.	Alternatives To Be Evaluated							
				Base Assumption	SEP/ELIM	MILL CRK TUNNEL	CONSOL / HRT	CONSOL / STORE	SCREEN / OPTIM	HW/DW	OTHER
512	MILL AND VINE GRATING	Mill Creek	MILL-32	Express Sewer + Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
511	531 DAVIS GRATING	Mill Creek	MILL-32	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
510A	SOUTHERN AVE. GRATING	Mill Creek	MILL-32	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
509	GEBERT STREET		MILL-32	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
513	BERNARD AND REISENBERG GRATING	Mill Creek	MILL-33	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
514	150' NORTH OF SMALLEY GRATING	Mill Creek	MILL-33	Separation	X	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage.
532	DALY RD. VORTEX SEPARATOR	Compton Creek	MILL-34	Vortex Separator	X	---	*	*	X	NA	Consider facility upgrade, including higher level disinfection.
536	6246 MARIE GRATING	Compton Creek	MILL-35	Discharges to 532	---	---	*	*		NA	If not eliminating by separation, consider HRT and storage
180	BLUE ROCK REGULATOR	West Branch Mill Creek	MILL-36	Separation	x	---	*	*	X	NA	If not eliminating by separation, consider HRT an storage.
1	GEST STREET			ELIMINATED							
120	SYLVAN SOUTH			ELIMINATED							
121	SYLVAN AVENUE N			ELIMINATED							
174	SOUTH HAYES			ELIMINATED							
210	DUNAWAY-VEAZEY			ELIMINATED							
417	BOLD FACE #3			ELIMINATED							
418	RIVER ROAD A			ELIMINATED							
442	VINE STREET / BENGAL DRIVE			ELIMINATED							
445	RIVERFRONT STADIUM REGULATOR			ELIMINATED							
453	COLLARD STREET EAST			ELIMINATED							
517	510 SOUTH COOPER GRATING			ELIMINATED							
542	BOLD FACE			ELIMINATED							
546	VEAZY			ELIMINATED							
548	RIVERFRONT COLISEUM REGULATOR			(SEE CSO 447)							
561	STATION AVE. #2			ELIMINATED							
659	CENTRAL AVE. N. OF PRODUCE ALLEY			ELIMINATED							
661	PLUM STREET @ CORRIGAN ALLEY			ELIMINATED							
662	PLUM STREET @ PRODUCE ALLEY			ELIMINATED							
663	PLUM STREET N OF PRODUCE ALLEY			ELIMINATED							
25B	WINTON ROAD			ELIMINATED							
26B	STATION AVE DIVERSION MANHOLE			ELIMINATED							
425A	STATE ROAD A			ELIMINATED							
466W	EGGLESON AND PETE ROSE WAY DIV. DAM			ELIMINATED							
510B	SOUTHERN AVENUE			ELIMINATED							

X Included in 1996 LTCP. Included in update.
--- Not included in Update.
* See "Other" alternatives for this CSO
Note - Separation infers both street-level and complete separation.

EXHIBIT 4, ATTACHMENT A-1 - MILL CREEK DRAINAGE AREA ALTERNATIVES

CSO	Location	Receiving Water	Alternative Group No.	Alternatives To Be Evaluated							
				Base Assumption	SEP/ELIM	MILL CRK TUNNEL	CONSOL / HRT	CONSOL / STORE	SCREEN / OPTIM	HW/DW	OTHER
527B	POWERS #2			**ELIMINATED**							
527C	POWERS SOUTH #3			**ELIMINATED**							
558A	PROCTER & GAMBLE #1			**ELIMINATED**							
558B	PROCTER & GAMBLE #2			**ELIMINATED**							
558C	P & G #3 REGULATOR			**PRIVATE/SEPARATE**	**X**	**---**	**---**	**---**	**X**	**---**	
558D	PROCTER & GAMBLE #4			**ELIMINATED**							
660E	CENTRAL AVE. @ PRODUCE ALLEY E			**ELIMINATED**							
660W	CENTRAL AVE. @ PRODUCE ALLEY W			**ELIMINATED**							

X Included in 1996 LTCP. Included in update.
--- Not included in Update.
* See "Other" alternatives for this CSO
Note - Separation infers both street-level and complete separation.

EXHIBIT 4, ATTACHMENT A-2 - MUDDY CREEK DRAINAGE AREA ALTERNATIVES

CSO	Location	Receiving Water	Alternative Group No.	Alternatives To Be Evaluated						
				Base Assumption	SEP/ELIM	CONSOL / HRT	CONSOL / STORE	SCREEN / OPTIM	HW/DW	OTHER
402	TOPINABEE RD. DIV. DAM	Ohio River	MUD-1	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
403	ELCO ST. DIV. DAM	Ohio River	MUD-1	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
404	IVANHOE ST. DIV. DAM	Ohio River	MUD-1	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
405	REVERE ST. DIV. DAM	Ohio River	MUD-1	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
406	KENNEBEC ST. DIV. DAM	Ohio River	MUD-1	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
223	FOLEY RD. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
408	WOCHER ST. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
409	RIVER TRANSPORTATION	Ohio River	MUD-2	Eliminated	---	---	---	---	---	
410	FENIMORE ST. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
411	ANDERSON FERRY RD. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
412	COLAFAX ST. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
413	TYLER ST. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
414	MCGINNIS ST. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
415	FITHIAN ST. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
416	IDAHO ST. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
541	5678 RIVER RD. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
654	STILLE DR. DIV. DAM	Ohio River	MUD-2	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
523	RAPID RUN AND DEVILS BACKBONE GRATING	Rapid Run	MUD-3	HRT	X	X	X	X	NA	Evaluate Storage/Treatment
198	MUDDY CREEK @ WESTBOURNE GRATING	Muddy Creek	MUD-4	HRT	X	X	X	X	NA	Existing Facility - Evaluate provision of disinfection at higher levels of control
518	MUDDY CR. (WEST OF SIDNEY) GRATING	Muddy Creek	MUD-5	HRT	X	X	X	X	NA	Evaluate Storage/Treatment
521	GLENWAY & WESTBOURNE	Muddy Creek		Eliminated	X	---	---	---	---	
522	WERK AND WESTBOURNE GRATING	Muddy Creek	MUD-6	HRT	X	X	X	X	NA	Evaluate Storage/Treatment
520	ROBB AND WEST ST. GRATING	Muddy Creek	MUD-7	To CSO 522	X	---	---	---	NA	Elimination by relocation to CSO 522 asssumed; if not, consider sep./HRT/Storage
637	CARRIE @ McFARREN GRATING	Muddy Creek	MUD-8	To CSO 522	X	---	---	---	NA	Elimination by relocation to CSO 522 asssumed; if not, consider sep./HRT/Storage

X Included in 1996 LTCP. Included in Update.
--- Not included in Update.
* See "Other" alternatives for this CSO.
Note - Separation infers both street-level and complete separation.

EXHIBIT 4, ATTACHMENT A -3 - LITTLE MIAMI DRAINAGE AREA ALTERNATIVES

CSO	Location	Receiving Water	Alternative Group No.	Alternatives To Be Evaluated						
				Base Assumption	SEP/ELIM	CONSOL / HRT	CONSOL / STORE	SCREEN / OPTIM	HW/DW	OTHER
657	CORBIN ST. DIV. DAM	Ohio River	LIT-1	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
467	DELTA AVE. WEST REGULATOR	Ohio River	LIT-1	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
468	DELTA AVE. EAST REGULATOR	Ohio River	LIT-1	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
467A	DELTA AND HUMBERT DIV. DAM	Ohio River	LIT-1	Consolidate to CSO 467	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
469	DELTA @ EASTERN DIV. DAM	Ohio River	LIT-1	Relief Sewer + HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
669	KELLOGG, WEST OF WILMER	Ohio River	LIT-2	HW/DW Improvements	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
182	BERKSHIRE REGULATOR	Trib of Clough Creek	LIT-3	HRT	X	X	X	X	NA	
476	CLOUGH CR. DIV. DAM	Clough Creek	LIT-4	HW/DW Modification	X	*	*	X	Y	If not eliminating by separation, consider HRT and storage
470	EASTERN AVE. GRATING	Little Miami River	LIT-5	Regulator Improvement	X	X	X	X	NA	
471	GRANDIN ROAD GRATING	Little Miami River	LIT-5	Regulator Improvement	X	X	X	X	NA	
472	TURPIN ST. DIV. DAM	Duck Creek	LIT-6	HW/DW Impr. + Turpin St. HRT	X	X	X	X	Y	
85	5150 WOOSTER PIKE GRATING	Duck Creek	LIT-7	Regulator + HW/DW Improvements	X	X	X	X	Y	
86	ARCHER ST. DIV. DAM	Duck Creek	LIT-7	HW/DW Improvements	X	X	X	X	Y	
656	WOOSTER @ RED BANK DIV. DAM	Little Miami River	LIT-8	NA	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
503	ZAEH RD. GRATING	Duck Creek	LIT-9	Regulator Improvement	X	X	X	X	NA	
84	OLD RED BANK RD. GRATING	Duck Creek	LIT-9	Regulator Improvement	X	X	X	X	NA	
83	3675 FOREST HILLS GRATING	Duck Creek	LIT-9	Regulator Improvement	X	X	X	X	NA	
199	FORD GATE GRATING	Duck Creek	LIT-10	Regulator Improvement	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
80	BROTHERTON RD. GRATING	Duck Creek	LIT-11	Regulator Improvement	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
136	3979 ROSSLYN DR. GRATING	Trib of Duck Creek	LIT-12	HRT	X	X	X	X	NA	
64	END OF HARROW ST. DIV. DAM	Duck Creek	LIT-13	Regulator Improvement	X	X	X	X	NA	
205	CAMBERWELL AVE. DIV. DAM	Duck Creek	LIT-13	Regulator Improvement	X	X	X	X	NA	
188	3646 MADISON RD. DIV. DAM	Duck Creek	LIT-13	Regulator Improvement	X	X	X	X	NA	
61	4730 MADISON AVE. GRATING	Duck Creek	LIT-13	Regulator Improvement	X	X	X	X	NA	
43	5249 CHARLOE ST. GRATING	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549
214	YONONTE CR. GRATING	Tributary of Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549
553	NORTH TERM. MARBURG RD. REGULATOR	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549
552	I-71 WEST OF MARBURG REGULATOR	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549
551	I-71 OPP. LESTER RD. REGULATOR	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549
170	NORWOOD INCINERATOR GRATING	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549

X Included in 1996 LTCP. Included in Update.
--- Not included in Update.
* See "Other" alternatives for this CSO.
Note - Separation infers both street-level and complete separation.
Note - UDC consolidation may involve "Waters" issues.

EXHIBIT 4, ATTACHMENT A -3 - LITTLE MIAMI DRAINAGE AREA ALTERNATIVES

CSO	Location	Receiving Water	Alternative Group No.	Alternatives To Be Evaluated						
				Base Assumption	SEP/ELIM	CONSOL / HRT	CONSOL / STORE	SCREEN / OPTIM	HW/DW	OTHER
500	ROBERTSON SOUTH OF I-71 GRATING	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549
501	4326 28TH ST. GRATING	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549
550	NORTH TERM. EDWARDS RD. REGULATOR	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549
549	WILLIAMS AND DUCK CR. REGULATOR	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 43,214,553,552,551,170,500,501,550,549
54	LAWNDALE GRATING	Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 187 to Upper Duck Creek HRT/Storage
187	5637 LESTER RD. GRATING	Tributary of Duck Creek	LIT-14	Regulator Improvement + Upper Duck Creek HRT	X	X	X	X	NA	Consider consolidation with 54 to Upper Duck Creek HRT/Storage
135	1351 KENNEDY AVENUE GRATING	Trib of Duck Creek	LIT-15	Regulator Improvement	X	---	---	X	NA	If not eliminating by separation, consider HRT and storage
79	SOUTHERN AVE. GRATING	Little Duck Creek	LIT-16	Static Screens	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
78	3980 SOUTH WHETSEL GRATING	Little Duck Creek	LIT-16	Static Screens	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
76	BRAMBLE AND HOMER GRATING	Little Duck Creek	LIT-16	Static Screens	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
75	6333 ROE ST. GRATING	Little Duck Creek	LIT-16	Static Screens	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
74	6402 ROE ST. GRATING	Little Duck Creek	LIT-16	Static Screens	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
72	4800 JAMESON GRATING	Little Duck Creek	LIT-16	Static Screens	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
71	PLAINVILLE AND INDIAN HILL GRATING	Little Duck Creek	LIT-16	Express Sewer	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
70	PLAINVILLE NORTH OF INDIAN HILL	Little Duck Creek	LIT-16	Static Screens	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
69	CAMARGO AND EAST FORK GRATING	Little Duck Creek	LIT-16	Static Screens	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
200	EAST FORK AVE. GRATING	Little Duck Creek	LIT-16	Static Screens	X	*	*	X	NA	If not eliminating by separation, consider HRT and storage
554	STEWART AND KEN ARBRE GRATING	Deerfield Creek	LIT-17	Consolidate to Upper Deerfield Creek HRT	X	X	X	X	NA	Consider existing stormwater conduit for consolidation
555	OPP. 6735 KEN ARBRE GRATING	Deerfield Creek	LIT-17	Consolidate to Upper Deerfield Creek HRT	X	X	X	X	NA	Consider existing stormwater conduit for consolidation
556	STEWART RD. WEST REGULATOR	Deerfield Creek	LIT-17	Consolidate to Upper Deerfield Creek HRT	X	X	X	X	NA	Consider existing stormwater conduit for consolidation
557	STEWART RD. EAST REGULATOR	Deerfield Creek	LIT-17	Consolidate to Upper Deerfield Creek HRT	X	X	X	X	NA	Consider existing stormwater conduit for consolidation
66	MADISON AND REDBANK GRATING	Deerfield Creek	LIT-18	Consolidate to Lower Deerfield Creek HRT	X	X	X	X	NA	Consider consolidation with 68
68	NU-TONE PARKING LOT GRATING	Deerfield Creek	LIT-18	Lower Deerfield Creek HRT	X	X	X	X	NA	Consider consolidation with 66

X Included in 1996 LTCP. Included in Update.
--- Not included in Update.
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Note - UDC consolidation may involve "Waters" issues.